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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/774,013
Filing Date: January 31, 2001
Appellant(s): SONODA, FUMIHIRO

MAILED
MAY 23 2006

Technology Center 2600

Ruthleen Uy
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 03-16-2006 appealing from the Office action mailed 09-20-2005

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal contained in the brief is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

The following is a listing of the evidence (e.g. patents, publications, Official Notice; and admitted prior art) relied upon in the rejection of claims under appeal.

- Stavely et al. (USPN 5,969,372)
- Yajima et al. (USPN 4,074,231)

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1-22 have been rejected under 35 USC 103(a) as being unpatentable over the combination of Stavely et al. (USPN 5,969,372) and Yajima (USPN 4,074,231).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Stavely et al. (USPN 5,969,372) and Yajima et al. (USPN 4,074,231).

regarding the independent claims:

With regard to claim 1, which is representative of claim 7, Stavely discloses reading a defective image to provide information regarding a defect on a film (Stavely col. 2 lines 31-34: The reference describes scanning (i.e. reading) an image that contains defects (i.e. a defective image) to provide an image of the surface defects (i.e. information regarding a defect on a film).).

Stavely further discloses reading the defective image before reading the actual image (Stavely col. 4 lines 21-25: Stavely describes that the order of Scan A (i.e. the actual image) and Scan B (i.e. the defect image) is not important. In stressing the unimportance of the order, Stavely implicitly discloses both (1) performing Scan A before performing Scan B, and (2) performing Scan B before performing Scan A. Accordingly, Stavely discloses reading the defective image (Scan B) before reading the actual image (Scan A), as is required by the claim.).

Stavely further discloses performing preprocessing for the blemish elimination processing on the defective image while reading photoelectrically said image (Stavely col. 5 lines 60-65: The reference describes processes that limit the image correction (i.e. the blemish elimination processing) that is to be later performed on the actual image. These processes are “preprocessing” because they are performed prior to the actual image correction. Further, these pre-processes are performed on the defect image (i.e. Scan B, “the infrared scan”). Accordingly, all the limitations are met.).

Regarding the “wherein” limitation presented in the final paragraph of both claims 1 and 7, Stavely discloses preprocessing the infrared scan with known image processing techniques such as area size thresholding, feature clustering, edge detection and boundary following, and region extraction methods (Stavely col. 5 lines 60-65). Stavely, however, fails to expressly disclose enhancing or filtering these edges or boundaries. Yajima, on the other hand, teaches the use of edge enhancement for the purpose of clearly defining the borders of a line (Yajima col. 2 lines 41-48). It would have been obvious to one reasonably skilled in the art at the time of the invention to modify Stavely’s preprocessing method by enhancing edges in addition to detecting them. Such a modification would have allowed for the boundaries of the defective portions to be more clearly defined and recognizable.).

Stavely further discloses performing blemish elimination processing on a blemish of the actual image, based on the defective image subjected to preprocessing (Stavely col. 2 lines 30-34; col. 4 lines 19-24:

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- The entire Stavely reference is devoted to performing this particular limitation. The above citations are given as a convenient pinpoint, but this limitation is indeed the main point of the Stavely disclosure.
- Note that the above paragraph in this Office Action describes how the defective images are subjected to preprocessing in order to limit the image correction that is performed on the actual image.
- As has been described above, there are two scans: One is of the actual image (Scan A), and one is of the defective image (Scan B). Blemish elimination is performed on the actual image. It is based on the defective image (i.e. “Scan B provides … an image of the surface defects … which is then used [to] alter corresponding areas of the first scan.”).
- The processing performed in Stavely unquestionably qualifies as the “blemish elimination processing” required by the claim. The reference describes “suitably alter[ing] corresponding areas in the first scan”. These “corresponding areas” are described throughout the specification (and in the title) as surface artifacts such as dust, fingerprints, scratches, etc.).).

regarding the dependent claims:

Regarding claim 3, Stavely discloses that the image on the film is sequentially read on a plane basis (see figure 1).

Regarding claims 5 and 8, Stavely further discloses producing flag information which indicates the presence or absence of the defect on a pixel unit basis from the defective image (Stavely col. 4 lines 21-24: the defect signature information disclosed in stavely is analogous to the claimed flag information because both indicates the presence or absence of a defect).

Regarding claims 6 and 9, Stavely discloses that the defective image is photoelectrically read using infrared light (Stavely col. 4 lines 27-28)

Regarding claims 4 and 10, Stavely discloses that the defective image is evaluated to obtain an evaluated result (Stavely col. 4 lines 21-24). The image of surface defects from the infrared image as disclosed in Stavely is analogous to the evaluated result as recited in the claim. With respect to the further limitation recited in the claim that preprocessing and blemish elimination processing are stopped in accordance with the evaluated result, Stavely discloses that the image of surface defects, which is derived from the infrared image, is used in the blemish elimination processing (Stavely col. 4 lines 21-24). Since the image of surface defects, which is analogous to the evaluated result as recited in the claim, is used to perform the blemish elimination processing, it follows that the preprocessing and blemish elimination processing are stopped in accordance with the evaluated result. Therefore, this further limitation is inherent in the teachings of Stavely

Regarding claims 2 and 11, Stavely further discloses that preprocessing is finished by the time the actual image is obtained (Stavely col. 4 lines 24-25: The reference describes that the order of scan A and scan B is not important. Thus, Stavely discloses performing Scan B before Scan A. In this case, the preprocessing of Scan B (the defective image) would be completed by the time Scan A (the actual image) is obtained.

Regarding claims 12 and 13, Stavely further discloses that, following the blemish elimination processing, the actual image is an image without blemishes (see generally Stavely col. 1 – col. 14).

Regarding claims 15, 16 and 20, Stavely discloses that preprocessing is performed during or before the image on the film is fine scanned by visible light (Stavely col. 4 lines 24-25: Again, the reference describes both simultaneous scanning of the two images (i.e. preprocessing is performed during) and sequential scanning of the two images in either order (i.e. preprocessing is performed before).

Regarding claims 14 and 19, the combination of Stavely and Yajima further disclose that the edge enhancement method enhances the image of an edge (Yajima col. 2 lines 41-48) corresponding to a defective portion (Stavely col. 5 lines 60-65), emphasizing the boundary (Yajima col. 2 line 42 and Stavely col. 5 line 62), and defining the position of the defect of the defective image (Stavely col. 4 line 23). This edge enhanced image data is binary coded (Yajima col. 3 lines 56-57).

Regarding claims 17 and 18, Stavely further discloses that the evaluated result is a result on whether image data which is smaller than a given threshold value is present before performing the preprocessing (Stavely col. 10 lines 54-62). If the image data is smaller than the threshold value, Stavely discloses that blemish elimination processing is not needed (Stavely col. 10 lines 54-62).

Regarding claims 21 and 22, the limitations of these claims have been addressed with respect to claim 1 above.

(10) Response to Argument

arguments regarding claim 1:

- Arguments (a), (b), and (c) are directed to the following limitation: “performing preprocessing for the blemish elimination processing on said defective image while reading photoelectrically said image.”

(a) Appellant alleges that the processing that is performed in Stavely is not “preprocessing” as is required by the claim (appeal brief pg. 10).

(response):

Appellant’s arguments have been fully considered but are unpersuasive. The claim simply requires “preprocessing.” This term is interpreted in accordance with its plain meaning. The processing described on col. 5 lines 60-65 qualifies as the claimed “preprocessing” because it is performed prior to the performance of future image processing and it sets the stage for the future image processing to be performed. Specifically, the process is defining (on the defect image) which areas qualify as the claimed “blemishes.” This processing operation is a textbook example of “preprocessing for the blemish elimination processing,” because it is actually determining what is and isn’t a blemish (which in turn determines what does or doesn’t get corrected on the actual image).

(b) Appellant alleges that the image processing of Stavely is directed to *image processing* and not *blemish elimination processing* (appeal brief pgs. 10-11).

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(response):

The examiner does not find this argument to be persuasive—or even colorable. The entire Stavely disclosure is directed to image processing that qualifies as the claimed “blemish elimination processing.” The reference describes correcting areas (i.e. eliminating blemishes) on film images that have been degraded by the presence of such artifacts as dust, fingerprints, scratches, etc. (see, e.g., col. 1 line 66 – col. 2 line 2). These are the exact same type of blemishes that are discussed in the applicant’s own specification (see, e.g., pg. 1 of applicant’s specification).

(c) Appellant alleges that “the image processing of Stavely is not performed on the defective image.” (appeal brief pg. 11).

(response):

Although it is not totally clear which limitation the appellant is referring to, the examiner will proceed under the assumption that appellant is referring to the claimed “preprocessing … on said defective image.” This appears to be consistent with appellant’s intent, because this is the only process recited in the claim that is performed on the defective image.

Proceeding under this assumption, the examiner finds appellant’s argument unpersuasive. The processing (which is preprocessing) recited at col. 5 lines 60-65 is quite clearly being performed on the defective image, and not the actual image. The cited excerpt states that “Known image processing techniques such as areas size thresholding, feature clustering, edge detection and boundary following, and region extraction methods may be used to limit image correction to larger features and to ignore small scattered points of low intensity and noise **in the infrared scan.**” This is consistent with the description in Stavely’s “Overview”—which describes that Scan B (the infrared scan) provides an image of the surface defects (see col. 4 lines 21-22). The processing (preprocessing) described at col. 5 lines 60-65 is performed in order to define where the surface defects are located in the defective image.

▪ Arguments (d), (e), and (f) are directed to the following limitation: “performing the blemish elimination processing on a blemish of said actual image, based on the defective image subjected to said preprocessing.”

(d) Appellant alleges that “it is unclear what is being cited by the examiner for teaching the claimed blemish elimination processing since Stavely appears to at most disclose image processing (preprocessing as cited by the examiner).” (appeal brief pg. 12).

(response):

Stavely describes that Scan A is a normal image (i.e. an actual image). Stavely plainly describes that Scan A is “the image to be corrected.” (see col. 4 lines 19-21). The blemish elimination processing is the correction of this Scan A. This is what the entire disclosure is directed to. Stavely describes that “There is a need for automatically uniquely distinguishing surface artifacts and defects from features defined in the image and for automatically correcting identified artifacts in digitized image.” (see col. 2 lines 21-24). This disclosure alone is sufficient to meet claimed limitation of “blemish elimination processing on a blemish of said actual image.”

Is the appellant really arguing that image processing is not being performed on the actual image?

If so, then one has to look no further than the Stavely abstract, which recites that “Image processing may then be used to correct areas in the normal scan corresponding to defects identified in the separate scan.” Because the claim does not require specifics of the image processing on the actual image, an explanation of the ways that the actual image is being corrected is outside the scope of the claim—and therefore outside the scope of this appeal. All that matters—for purposes of this limitation—is that Stavely discloses that corrections (i.e. processing) are performed on the actual image.

(e) Appellant alleges that the Examiner is citing one instance of image processing (from the Stavely reference) to read on two separate and distinct limitations from the claims. (appeal brief pg. 12).

(response):

Appellants arguments are unpersuasive. The examiner is not citing just one instance of processing from the Stavely disclosure. The examiner has cited (and is still citing) passages of the Stavely reference that explain the following two separate instances of processing:

- 1) The corrections that are to be performed on the normal image, Scan A. This correction is mentioned throughout the specification, and has been specifically pointed out at col. 2 lines 30-34; col. 4 lines 19-21; and the abstract of the disclosure.
- 2) The processing that is performed on Scan B to determine what exactly is to be corrected on Scan A. This processing of Scan B is shown at col. 5 lines 60-65.

At no time was passage #2 cited to show the processing performed on Scan A. It has only been cited to show the preprocessing that is performed on Scan B.

(f) Appellant alleges that Stavely does not disclose that Scan B is performed prior to Scan A. (appeal brief pgs. 12-13).

(response):

Appellant’s arguments have been fully considered, but are unpersuasive. Stavely describes that the order of Scan A (i.e. the actual image) and Scan B (i.e. the defect image) is not important. In stressing the unimportance of the order, Stavely implicitly discloses both (1) performing Scan A before performing Scan B, and (2) performing Scan B before performing Scan A. Accordingly, Stavely discloses reading the defective image (Scan B) before reading the actual image (Scan A), as is required by the claim.).

The examiner understands that Stavely does not expressly state that Scan B should be performed prior to Scan A. But by expressly stating that either order is okay, Stavely is at least implicitly disclosing that Scan B can be performed before Scan A . This is sufficient disclosure.

- Arguments (g) and (h) are directed to the following limitation: “wherein said preprocessing comprises edge enhancement processing.”

(g) Appellant alleges that it would not have been obvious to combine the Stavely and Yajima references. (appeal brief pg. 13).

(response):

Appellants argument is unpersuasive. Appellant merely cites a conclusion, without showing any supporting evidence or persuasive argumentation. The examiner has cited a motivation for combining these two references, and this motivation has not been refuted (or even addressed) by appellant.

(h) Appellant alleges that the addition of edge enhancement (as taught by Yajima) to the Stavely system would lead to a system failure because noise in the infrared scan would be emphasized to an unignorable level. (appeal brief pg. 14).

(response):

Appellant’s argument has been fully considered but is unpersuasive. Appellant is respectfully invited to re-read the cited portion of Yajima, which plainly states that edges are enhanced without undue influence from outside noise. Thus, the edge enhancement of Yajima is combinable with the Stavely system in that the noise from the infrared scan (in Stavely) will not be emphasized by the Yajima edge enhancement.

argument regarding claim 2:

(i) Appellant repeats an argument made with respect to claim 1 that Stavely does not disclose performing Scan B prior to performing Scan A. Appellant applies this same rationale to the limitation of claim 2. (appeal brief pg. 15).

(response):

Appellant’s argument is dependent on the argument advanced with respect to claim 1. Appellant’s argument is therefore unpersuasive for the same reasons that the claim 1 argument was found to be unpersuasive. This argument—which is addressed in part (f) above—is incorporated herein.

argument regarding claims 5 and 8:

- note → Appellant places these arguments under the heading “Claims 4, 5, 8, and 10.” However, these arguments are only directed at limitations from claims 5 and 8.
- (j) Appellant advances arguments directed to the “flag information” limitation of claims 5 and 8. Specifically, appellant states the following: “Since the Examiner is citing the same aspect of the reference for teaching different

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aspects of the claims, Appellant respectfully requests that the Examiner cite other aspects of the prior art, or cite new prior art for teaching the separate and distinct claim elements." (appeal brief pg. 15).

(response):

Appellant's argument is unpersuasive. Further, appellant's request for new prior art is respectfully denied. New prior art is unnecessary when the existing prior art teaches the claim limitations.

What has led appellant to believe that a single portion of a prior art reference cannot read on multiple claims? Claims 5 and 8 are dependent on claims 1 and 7, respectively. They recite limitations that further describe a limitation from the independent claims that was met by the Stavely reference. Nothing precludes a single portion of the Stavely reference from reading on both a genus and a species.

Appellant has not pointed out any specific reason why this portion of the Stavely reference is insufficient to meet the limitation recited in claims 5 and 8. It follows that appellant's arguments are unpersuasive.

(11) Related Proceeding(s) Appendix

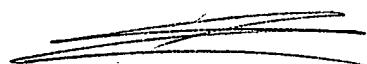
No decision rendered by a court or the board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Conclusion

4. For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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